

In re Patent Application of:

PEARSON ET AL.

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Amendments to the Specification

[0027] When components in the input beam have their nominal wavelengths ($\lambda_1, \lambda_2, \dots, \lambda_n$), centered on the ITU grid of the telecom window, the waveguide array is positioned so that they are focused onto the midpoint of the divided waveguides. In Figure 2, it will be seen that wavelength λ_1 is focused onto the midpoint 26 of divided waveguide 23" adjacent the leading edge 29a of waveguide divider 29. As a result the light is divided equally into first and second portions passing respectively through split waveguide sections 23a, 23b, and thus impacts the corresponds sensor elements 25a, 25b with equal intensity. This is shown by the ~~50:50 55:50~~ intensity ratio picked up by sensor elements 25a, 25b. It will of course be realized that it is not necessary for the nominal wavelength to be split 50:50 as long as the monitor is properly calibrated so that the ratio for the components in each section for each nominal wavelength is known.

[0030] The intermediate sensors receive light from the intervening undivided waveguides 23. These are located at positions where they do not receive a pre-assigned ITU wavelength demultiplexed by the echelle grating 21 so the only signal generated by the sensors 25c comes from background noise 28. By comparing the added ~~the~~ signals from the sensors 25a, 25b and comparing the sum with the signals from the intervening sensors 25c, the monitor can measure the optical signal-to-noise ratio (OSNR) of the optical network.